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INVENTORY MADE 1959

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THIS CONSERVATION NEED INVENTORY covers 1,440,278 acres in Roosevelt County. This report excludes 93,592 acres of Federally-owned non-cropland and 26,596 acres of urban and built-up areas.

Total acres in the County - 1,560,400 acres.

THE INVENTORY AND THIS LEAFLET was prepared by the Roosevelt County Conservation Needs Committee. The Committee consisted of representatives of the County Extension Service, Agriculture Conservation Program Service, U. S. Soil Conservation Service, Farmers Home Administration, Fort Peck Indian Agency, County Committeemen of Agriculture Conservation Program Services and supervisors of Roosevelt County Soil and Water Conservation Districts. The local representative of the Soil Conservation Service acted as chairman.

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# SUPPLEMENT TO THE ROOSEVELT COUNTY CONSERVATION NEEDS INVENTORY

The following is an estimate made by the Roosevelt County Conservation needs committee of the practices and the treatment needed on the various land uses. Estimates were made as of June 30th, 1963.

## Land Use - Dryland Cropland

| <u>PRACTICE</u>              | <u>UNIT'S</u> | <u>AMOUNT</u> |
|------------------------------|---------------|---------------|
| Conservation Cropping System | Acres         | 220,000       |
| Diversions                   | Miles         | 120           |
| Grassed Waterways            | Acres         | 2,000         |
| Stripcropping, Contour       | Acres         | 60,000        |
| Stripcropping, Wind          | Acres         | 90,000        |
| Stubble Mulching             | Acres         | 60,000        |

## Land Use - Irrigated Cropland

|                               |        |        |
|-------------------------------|--------|--------|
| Irrigation Canals & Laterals  | Miles  | 50     |
| Irrigation Field Ditches      | Miles  | 1,000  |
| Irrigation Storage Reservoirs | Number | 30     |
| Irrigation Water Management   | Acres  | 30,000 |
| Irrigation Land Leveling      | Acres  | 17,500 |
| Pumping Plants                | Number | 50     |
| Drainage Field Ditches        | Miles  | 1,000  |

## Land Use - Dryland Pasture & Hayland

|                              |       |        |
|------------------------------|-------|--------|
| Pasture and Hayland Planting | Acres | 49,000 |
| Pasture - Proper Use         | Acres | 6,000  |

## Land Use - Range

|                        |        |         |
|------------------------|--------|---------|
| Range Deferred Grazing | Acres  | 151,600 |
| Farm Ponds             | Number | 350     |
| Cross Fencing          | Miles  | 240     |
| Range Proper Use       | Acres  | 300,000 |
| Range Seeding          | Acres  | 6,000   |
| Spring Developments    | Number | 60      |
| Waterspreading         | Acres  | 6,000   |
| Wells                  | Number | 175     |

## Land Use - Wild Life

|                                |        |       |
|--------------------------------|--------|-------|
| Fish Pond Stocking             | Number | 50    |
| Wild Life Habitat Development  | Acres  | 1,200 |
| Wild Life Habitat Preservation | Acres  | 1,500 |

## Land Use - Woodland

|                                  |       |       |
|----------------------------------|-------|-------|
| Farmstead and Feedlot Windbreaks | Acres | 1,850 |
| Field Windbreaks                 | Miles | 714   |

Additional practices not listed are needed in amounts not felt to be significant.





# WATERSHED



Showing flood area of Shotgun Creek taken from Snake Butte Road facing southwest. This is in the proposed Shotgun watershed.

## WATERSHED INVENTORY

**WHAT WAS DONE:** Disregarding county lines, the natural drainages were divided into units of 250,000 acres or less. Each subdivision was studied by the committee to determine treatment needs and possible developments which might be met through the small watershed program or by other kinds of local group action. There are nine major small watershed studies in the county. Of these nine the committee felt some kind of group action would be needed to solve the problems.

**WHAT IT REVEALED:** Most of the watersheds drain directly into the Missouri River. Over 14,000 acres have flood damage. Flood damage would become more critical as the areas are developed. It was estimated that 70,000 acres is feasible for irrigation, and some kind of group action would be needed to get this accomplished. Some kind of group action would be needed to solve drainage problem on 14,000 acres.

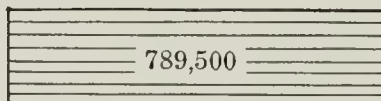
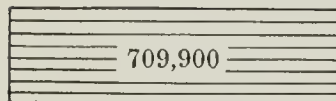
Three watersheds were considered more feasible for development:

1. Shotgun and Little Muddy drainage area
  - a. Flood control
  - b. Agricultural water use
  - c. Drainage
  - d. Recreation
2. Little Wolf, Tule and Chelsa Creek drainage area
  - a. Agricultural water use
  - b. Flood control
  - c. Drainage
  - d. Recreation
3. Smoke Creek drainage area
  - a. Agricultural water use
  - b. Drainage
  - c. Flood control
  - d. Recreation

## Land Use Today

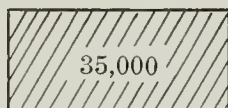
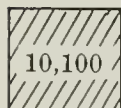
## Expected by 1975

### Dry Cropland



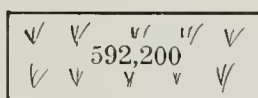
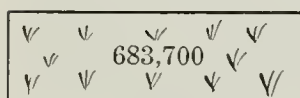
Dry cropland will increase.

### Irrigated Cropland



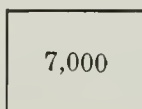
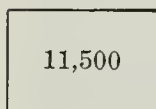
There will be an increase of irrigated cropland.

### Pasture - Range



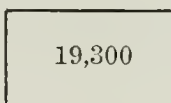
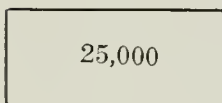
Rangeland will decrease.

### Forest and Woodland



Woodland will decrease.

### Other Land



Other land will decrease.

### TOTAL

1,440,200

1,438,000

Cropland will increase. This will come mostly from the better rangeland and some from the woodland areas along the Missouri River. The decrease in total land will go into urban and built-up areas, highways and private use other than agriculture.

## Problems and Needed Treatment

|  |         |
|--|---------|
| <b>DRY CROPLAND</b> .....  | 789,508 |
| 65% or 515,150 acres are adequately treated or treatment not feasible. |         |
| 35% or 274,358 acres need treatment —                                  |         |
| a. Erosion is the dominant problem on ....                             | 607,464 |
| (Strip cropping, stubble mulching, grassed waterways, etc.)            |         |
| b. Unfavorable soil condition dominant on .....                        | 182,032 |
| (Crop rotation, fertilizer and narrow strips)                          |         |
| <b>IRRIGATED CROPLAND</b> .....  | 35,066  |
| 9% or 4,049 acres adequately treated                                   |         |
| 91% or 31,017 acres needing treatment                                  |         |
| a. Erosion dominant problem on .....                                   | 17,580  |
| (Land leveling, control structures, improved water application)        |         |
| b. Unfavorable soil condition is dominant on .....                     | 14,949  |
| (Crop rotation, improved water application, land leveling, etc.)       |         |
| <b>GRASSLAND (Range and Pasture)</b> .....                             | 592,240 |
| 34% or 173,971 acres adequately treated                                |         |
| 66% or 418,269 acres needing treatment                                 |         |
| a. Reestablishment of vegetation .....                                 | 40,500  |
| b. Improvement of vegetation (deferred grazing) .....                  | 151,600 |
| c. Protection from overgrazing .....                                   | 156,000 |
| d. Stockwater development .....  | 153,000 |
| e. Protection from fire .....  | 300,000 |
| f. Erosion problem .....   | 8,100   |
| g. Encroachment of undesirable plants ..                               | 2,500   |
| h. Insects and diseases .....  | 120,000 |
| i. Excess water .....  | 10,000  |
| j. Water conservation (water spreading mostly) .....                   | 21,000  |
| <b>WOODLAND</b> .....  | 6,939   |
| 7% or 939 acres adequately treated                                     |         |
| 93% or 6,000 acres needing treatment                                   |         |
| a. Protection from fire .....  | 6,000   |
| b. Insects and diseases .....  | 3,000   |
| c. Control of animals .....  | 3,000   |
| d. Establishment of shelterbelts .....                                 | 1,850   |
| <b>OTHER LAND</b> .....  | 19,296  |
| 88% or 17,740 acres adequately treated                                 |         |
| 12% or 1,556 acres needing treatment                                   |         |
| a. Erosion dominant problem on .....                                   | 6,192   |
| b. Unfavorable soil conditions dominant on .....                       | 13,054  |



DRY CROPLAND



IRRIGATED CROPLAND



GRASSLAND



WOODLAND



OTHER LAND



## LAND USE CHANGE By Land-Capability Classes

| CLASS | CROPLAND    |             |             |             | PASTURE-RANGE |             | FOREST-WOODLAND |             | OTHER LAND  |             | TOTAL       |             |
|-------|-------------|-------------|-------------|-------------|---------------|-------------|-----------------|-------------|-------------|-------------|-------------|-------------|
|       | Dry         |             | Irrigated   |             |               |             |                 |             |             |             |             |             |
|       | 1958        | 1975        | 1958        | 1975        | 1958          | 1975        | 1958            | 1975        | 1958        | 1975        | 1958        | 1975        |
|       | 1,000 acres | 1,000 acres | 1,000 acres | 1,000 acres | 1,000 acres   | 1,000 acres | 1,000 acres     | 1,000 acres | 1,000 acres | 1,000 acres | 1,000 acres | 1,000 acres |
| I     |             |             | 2.6         | 2.5         |               |             |                 |             |             | .1          | 2.6         | 2.6         |
| II    | 197.0       | 220.6       |             | 12.1        | 74.1          | 41.0        | 7.9             | 3.9         | 1.1         | 1.1         | 280.1       | 278.7       |
| III   | 381.2       | 440.9       | 2.9         | 12.9        | 193.6         | 121.8       | .1              | 1.0         | 4.6         | 5.3         | 582.4       | 581.9       |
| IV    | 111.5       | 107.8       | 4.6         | 7.5         | 139.1         | 145.2       | 3.2             | 1.8         | 6.7         | 2.6         | 265.1       | 264.9       |
| V     |             |             |             |             | .1            | .1          |                 |             |             |             | .1          | .1          |
| VI    | 20.2        | 20.2        |             |             | 264.8         | 265.5       | .3              | .3          | 2.0         | 1.2         | 287.3       | 287.2       |
| VII   |             |             |             |             | 12.0          | 12.8        |                 |             | 2.8         | 2.0         | 14.8        | 14.8        |
| VIII  |             |             |             |             |               | .8          |                 |             | 7.8         | 7.0         | 7.8         | 7.8         |
| Total | 709.9       | 789.5       | 10.1        | 35.0        | 683.7         | 587.2       | 11.5            | 7.0         | 25.0        | 19.3        | 1440.2      | 1438.0      |

It is estimated that 5,000 acres of B.L.M. Land will be coming into inventory and 2,229 acres would be going out as urban built-up areas, roads, bodies of water, etc.

It is indicated over 100,000 acres of range land and other undeveloped land along Missouri River will be going into dry and irrigated croplands.



Some of the land use changes will go into hay production as indicated by this water spreading system.



# THE LAND-CAPABILITY CLASSES



## Land suitable for regular cultivation and other uses

**CLASS I**—These soils have few or no conditions that limit their use. They can be safely cultivated without special conservation treatment.

**CLASS II**—These soils have some natural condition that limits the kinds of plants they can produce or that calls for some easily applied conservation practice when they are cultivated.

**CLASS III**—These soils have more serious or more numerous limitations than those in Class II. The limitations may be natural ones—such as steep slope, sandy or shallow soil, or too little or too much water. Or the limitation may be erosion brought on by the way the land has been used. Thus they are more restricted in the crops they can produce or, when cultivated, call for conservation practices more difficult to install or keep working efficiently.

## Land suitable for occasional cultivation and for other uses

**CLASS IV**—These soils have very severe limitations that restrict the kinds of plants they can grow. If cultivated, they require very careful management. In humid areas, they are suitable

for occasional but not regular cultivation: in subhumid and semiarid areas, crops fail in low-rainfall years.

## Land generally not suitable for cultivation but suitable for other uses

**CLASS V**—These soils have little or no erosion hazard but have some condition impractical to remove that limits their use largely to pasture, range, woodland, recreation, water supply, or wildlife food and cover.

**CLASS VI**—These soils have severe limitations that make them generally unsuited for cultivation and restrict their use largely to pasture, range, woodland, recreation, water supply, or wildlife food and cover.

**CLASS VII**—These soils have very severe limitations that make them unsuited for cultivation and that restrict their use to pasture, range, woodland, recreation, water supply, or wildlife food and cover with careful management.

**CLASS VIII**—These soils and land forms have limitations that prevent their use for commercial plant production and that restrict their use to recreation, water supply, or wildlife food and cover with careful protection.

## WHY THE INVENTORY

Although we are blessed with an abundance of land and water resources, they are not inexhaustible. They must be cared for and used wisely for their productiveness to continue. To assure their wise use basic facts are needed about the physical problems of conservation, their magnitude and relative urgency. This inventory contains these basic facts. It will be modified and kept current with advances in technology and increased knowledge.

## HOW IT WAS MADE

The inventory was initiated in 1957, as part of a National Inventory authorized by the Secretary of Agriculture. It is based upon the soil surveys of 160 acres samples that were drawn at random. The soils survey samples were expanded to represent actual conditions in the county.

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